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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,338	11/18/2003	Anand G. Dabak	TI-28984.1	9249

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EXAMINER
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PATEL, CHANDRAHAS B

ART UNIT	PAPER NUMBER
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2616

NOTIFICATION DATE	DELIVERY MODE
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02/13/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/718,338

Applicant(s)

DABAK ET AL.

Examiner

Chandahas Patel

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 1-27, 29, 36-38 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28, 30-35, 39-42 and 44-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 12/10/2007 have been fully considered but they are not persuasive.

Regarding claims 28 and 40, applicant argues that Secord does not teach two signals are produced at two output terminals. However, Whinnett which is a primary reference teaches producing two signals in Fig. 5 from 88. Secord is used as a secondary reference to teach the deficiencies of Whinnett. Secord teaches transforming the signals when necessary and not transforming them when not desired.

Regarding claim 39, applicant argues that shifting is done on one code sequence. That is the case as shown in Fig. 5. Operations are being done on one code sequence  $S_1S_2S_3S_4$

Examiner withdraws objection to drawings in light of amended specification.

### *Claim Rejections - 35 USC § 102*

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 39 is rejected under 35 U.S.C. 102(e) as being anticipated by Whinnett et al. (USPN 6,317,411).

**Regarding claim 39**, Whinnett teaches a circuit, comprising an encoder circuit coupled to receive a plurality of symbols [Fig. 5, 20], the encoder circuit producing the plurality of symbols and a sequence of predetermined signals at a first [Fig. 5, top line output of 88] and a second output terminal [Fig. 5, bottom line output of 88], wherein the sequence of predetermined signals comprises a code sequence [Col. 5, lines 12-16], and wherein a first shift

of the code sequence corresponds to the first output terminal and a second shift of the code sequence corresponds to the second output terminal [Col. 5, lines 28-35].

*Claim Rejections - 35 USC § 103*

4. Claims 28, 30, 31, 35, 40, 41, 44, 45, 49 rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831).

**Regarding claim 28**, Whinnett teaches a circuit, comprising an encoder circuit coupled to receive a plurality of symbols [Fig. 5, 20], the encoder circuit producing the plurality of symbols at a first output terminal [Fig. 5, top line output of 88] and a transform of the plurality of symbols at a second output terminal within a time slot [Fig. 5, bottom line output of 88 which is a transform of original data], the encoder circuit producing a sequence of predetermined signals interposed with the plurality of symbols [Fig. 5, 92 adds predetermined signals], the circuit producing plurality of symbols at two terminals [Fig. 5, two signals outputs from 88], the circuit producing a plurality of symbols at the first output terminal and the transform of the symbols at the second output terminal [Fig. 5, top and bottom output lines of 88].

However, Whinnett does not teach that circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal.

Secord teaches the circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal

**[Col. 5, lines 43-49, power control bits which transforms the signal are only inserted depending on output signal of MUX 40 in Fig. 5].**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to decide whether to transform or not plurality of symbols at the output terminal to provide additional time diversity **[Col. 5, lines 37-39].**

**Regarding claims 30 and 44,** Secord further teaches a diversity control circuit coupled to receive a first input signal, the diversity control circuit producing the control signal corresponding to the first input signal **[Col. 5, lines 39-43, MUX 40 in Fig. 5 produces the control signal corresponding to the first input signal from 20].**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a diversity control circuit to randomize error bursts **[Col. 5, lines 39-43].**

**Regarding claims 31 and 45,** Secord further teaches the first input signal corresponds to a Doppler frequency **[Col. 5, lines 46-49].**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a Doppler frequency as the input signal to achieve frequency diversity **[Col. 5, lines 46-49].**

**Regarding claims 35 and 49,** Whinnett teaches the sequence of predetermined signals comprises a code sequence **[Col. 5, lines 12-16]**, and wherein a first shift of the code sequence corresponds to the first output terminal and a second shift of the code sequence corresponds to the second output terminal **[Col. 5, lines 28-35].**

**Regarding claim 40,** Whinnett teaches a circuit comprising: an encoder circuit coupled to receive a plurality of first symbols corresponding to a first user **[Fig. 5, 20]**, the encoder circuit

producing the plurality of first symbols at a first output terminal **[Fig. 5, top line output of 88]** and a transform of the plurality of first symbols at a second output terminal within a time slot **[Fig. 5, bottom line output of 88 which is a transform of original data]**, the circuit producing a plurality of symbols at the first output terminal and the transform of the symbols at the second output terminal **[Fig. 5, top and bottom output lines of 88]**; a first multiplier circuit coupled to receive the plurality of first symbols and arranged to multiply the plurality of first symbols by a code corresponding to the first user to produce a first coded signal **[Fig. 5, 92]**, wherein the first coded signal is applied to a first antenna **[Fig. 5, 100]**; and a second multiplier circuit coupled to receive the transform of the plurality of first symbols and arranged to multiply the transform of the plurality of first symbols by the code corresponding to the first user to produce a second coded signal **[Fig. 5, 92]**, wherein the second coded signal is applied to a second antenna **[Fig. 5, 102]**.

However, Whinnett does not teach that circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal.

Secord teaches the circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal **[Col. 5, lines 43-49, power control bits which transforms the signal are only inserted depending on output signal of MUX 40 in Fig. 5]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to decide whether to transform or not plurality of symbols at the output terminal to provide additional time diversity [Col. 5, lines 37-39].

**Regarding claim 41**, Whinnett teaches a third multiplier circuit coupled to receive a plurality of second symbols and arranged to multiply the plurality of second symbols by a code corresponding to a second user to produce a third coded signal [Fig. 5, 94].

5. Claims 32, 33, 46, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831) as applied to claims 31, 30, 45, 44 above respectively, and further in view of Kang et al. (USPN 6,487,191).

**Regarding claims 32 and 46**, the references teach a circuit as discussed in rejection of claims 31 and 45.

However, the references do not teach the diversity control circuit is further coupled to receive a second input signal corresponding to a handoff signal.

Kang teaches the diversity control circuit is further coupled to receive a second input signal corresponding to a handoff signal [Col. 7, lines 7-12 – Col. 8, lines 1-8].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second input signal corresponding to a handoff signal so that power increase request information is only sent to a base station whose signal-to-noise ratio is the largest so that that base station starts modulating encoded signals [Col. 7, lines 7-12 – Col. 8, lines 1-8].

**Regarding claims 33 and 47**, the references teach a circuit as discussed in rejection of claims 30 and 44.

However, the references do not teach the first input signal corresponds to a handoff signal.

Kang teaches that the first input signal corresponds to a handoff signal [**Col. 7, lines 7-12 – Col. 8, lines 1-8**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first input signal corresponding to a handoff signal so that power increase request information is only sent to a base station whose signal-to-noise ratio is the largest so that that base station starts modulating encoded signals [**Col. 7, lines 7-12 – Col. 8, lines 1-8**].

6. Claims 34 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831) as applied to claim 28 above, and further in view of Bohnke et al. (USPN 6,567,374).

**Regarding claims 34 and 48**, Whinnett teaches a circuit as discussed in rejection of claim 28 and 40.

However, Whinnett does not teach the encoder circuit produces a midamble of the predetermined signal interposed with the plurality of symbols.

Bohnke teaches producing a midamble of the predetermined signal interposed with the plurality of symbols [**Fig. 2**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a midamble of the predetermined signal so that midamble can be used to transmit symbols to be used to provide time and frequency synchronization [**Abstract**].



7. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831) as applied to claim 41 above, and further in view of Takahashi (USPN 6,396,821).

**Regarding claim 42**, Whinnett teaches a circuit as discussed in rejection of claim 41.

However, Whinnett does not teach the third coded signal is applied to the first antenna and not the second antenna.

Takahashi teaches a coded signal is applied to the first antenna and not the second antenna [Col. 5, lines 8-15].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a signal to one antenna and not the other antenna so that diversity transmission control can be carried out [Col. 5, lines 22-25].

#### *Conclusion*

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is 571-270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CBP



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SUPERVISORY PATENT EXAMINER